

CLASS 607, SURGERY: LIGHT, THERMAL, AND ELECTRICAL APPLICATION

SUBCLASSES

1 LIGHT, THERMAL, AND ELECTRICAL APPLICATION:

This subclass is indented under the class definition. Subject matter for applying light or analogous rays to the body or modifying the temperature of the body or applying electricity to the body.

- (1) Note. Devices in this subclass are limited by claimed structure to therapeutic use. Where heating is used for cutting, coagulation, or other surgical use, see Class 606, Surgery, appropriate subclasses. Included herein are apparatus and methods for shrinking or killing tumors by heating, for example, at less than an amount needed to be considered as cutting or coagulation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 2+, for electrical systems.
88+, for light applicators.
96+, for thermal applicators.
115+, for electrical applicators.

SEE OR SEARCH CLASS:

- 219, Electric Heating, subclasses 600+ for subject matter for heating by means of electrostatic and/or electro magnetic fields.
601, Surgery: Kinesitherapy, subclasses 15+ for light, thermal, and electrical application to the body.
602, Surgery: Splint, Brace, or Bandage, subclasses 1+ for light, thermal or electrical application utilizing bandages or splints.
604, Surgery, subclass 20 for light applied to the body for therapeutic purposes.
606, Surgery, for surgical instruments utilizing light, heat or electrical instruments in body treatment, see subclasses 2+ for light application, 27+ for heat application and subclasses 32+ for electrical applications.

2**Electrical therapeutic systems:**

This subclass is indented under subclass 1. Subject matter wherein an electrical signal is generated for application to electrodes or other applicators to stimulate body tissue for effecting a cure or alleviation of the effects of an abnormal condition or injury, or to restore normal or quasi-normal operation to a body part or the monitoring or controlling of such generation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 4+, for subject matter relating to stimulators for a specific purpose or for use on a specific portion of the body.
45+, for electrical signals applied to the body to produce heating effects.
59+, for subject matter relating to special circuits useful for generating a stimulus.
66+, for subject matter relating to stimulation signals not otherwise classified.

SEE OR SEARCH CLASS:

- 600, Surgery, subclasses 300+ for diagnostic systems, particularly subclass 554 wherein the subject's body response to an electrical stimulus is measured.

3**Combined with nonelectrical therapy:**

This subclass is indented under subclass 2. Subject matter wherein the electrical treatment is accompanied, simultaneously or alternatively, with a nonelectrical therapy.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 98+, for electrical application to produce thermal effects in the body.

SEE OR SEARCH CLASS:

- 600, Surgery, subclasses 2+ for combined electrical and radioactive therapy and subclass 11 for combined electrical and magnetic therapy.
601, Surgery: Kinesitherapy, subclasses 15+ for electrical treatment combined with a kinesitherapy device.
602, Surgery: Splint, Brace, or Bandage, subclass 2 for bandages applying electricity to the body.

- 604, Surgery, subclasses 20+ for devices applying electricity and a medicament to the body, i.e., iontophoresis.
- 606, Surgery, subclasses 32+ for electro-surgical use, i.e., cutting, coagulating etc., of body tissue.
- 4 Combined cardioverting/defibrillating and pacing:**
This subclass is indented under subclass 2. Subject matter wherein electrical energy may be applied to the body in, on, or near the heart at a relatively high level to stop an abnormally rapid heartbeat (tachycardia) or a rapid fluttering (fibrillation) of the heart and at a relatively low level to regulate (pace) the heart at or near a desired rate.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
5+, for subject matter relating only to defibrillation/cardioversion.
9+, for subject matter relating only to pacing.
- 5 Cardioverting/defibrillating:**
This subclass is indented under subclass 2. Subject matter wherein energy at a relatively high level is applied in, on, or near the heart to stop an abnormally high heart rate (tachycardia) or a rapid fluttering of the heart (fibrillation).
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
4, for combined cardioversion/defibrillation and pacing.
14, for pacers correcting or preventing an abnormally high heart rate.
- 6 Sensing body condition or signal other than electrocardios:graphic signal:**
This subclass is indented under subclass 5. Subject matter for controlling output or setting parameters in response to a body condition or signal other than the electrocardios:graphic signal.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
17+, for pacing subject matter controlled by a sensed body condition.
- SEE OR SEARCH CLASS:
600, Surgery, subclasses 300+ for body condition sensing devices for diagnostic purposes.
- 7 Controlling or indicating stimulation level:**
This subclass is indented under subclass 5. Subject matter for signalling when a preset stimulation level has been reached or for setting the stimulation level in response to the sensing of a body condition.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
6, for subject matter setting the stimulation level in response to a sensed body condition.
- 8 Computing energy required or contact impedance:**
Subject matter under 5 for computing desired or actual energy supplied or the impedance between the body and applicators.
- 9 Heart rate regulating, (e.g., pacing):**
This subclass is indented under subclass 2. Subject matter for applying a relatively low energy level in, on, or near the heart to regulate the rate at which the heart beats to or near a desired rate or for monitoring and testing of such subject matter.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
115, for applicators used for pacing purposes.
- 10 With nonimplanted generator:**
This subclass is indented under subclass 9. Subject matter for generators positioned outside the patient's body.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
33, for an externally-located energy source.
- 11 Regulating or compensating stimulus level:**
This subclass is indented under subclass 9. Subject matter for regulating the level of the excitation applied to the patient or for compensating the stimulus for energy source variations

- or impedance changes in applicator-tissue interface.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
64, for similar subject matter in noncardiac stimulators.
- 12 Stimulation raised above energy source level:**
This subclass is indented under subclass 9. Subject matter for raising the stimulus amplitude above the energy source amplitude, e.g., by voltage multiplying, addition to the energy source amplitude, etc. to produce an effective pacing amplitude.
- 13 Reducing output recovery time:**
This subclass is indented under subclass 9. Subject matter for reducing the time required for electrochemical chemical effects in the tissue caused by the stimulus to stabilize, to permit the sensing of the cardiac response to the stimulus.
- 14 Treating or preventing abnormally high heart rate:**
Subject matter under 9 for preventing the delivery of the pacing stimulus at a time in the cardiac cycle when the heart would respond by beating at an undesirable high rate or by stimulating the heart in a manner to counteract an abnormally high rate.
- 15 Selecting plural stimulation patterns:**
This subclass is indented under subclass 14. Subject matter wherein multiple stored patterns of stimuli are applied in sequence to prevent or treat an abnormally high rate.
- 16 Intermittent operation for energy conservation:**
Subject matter under 9 wherein at least a part of the stimulus-producing circuitry is temporarily deactivated until the occurrence of a predetermined event ("wakeup" signal) to reduce the consumption of energy to prolong energy source life.
- 17 Parameter control in response to sensed physiological load on heart:**
Subject matter under 9 for controlling the pacing parameter, usually pulse rate, by sensing changes in the physiological load on the heart
- as evidenced by changes in a body condition, due to the changes in the person's activity, state of health.
- (1) Note. Conditions such as blood pressure, body temperature, and blood chemistry are detected conditions monitored.
- SEE OR SEARCH CLASS:
600, Surgery, subclasses 300+ for similar monitoring techniques for diagnostic purposes.
- 18 Plural sensed conditions:**
This subclass is indented under subclass 17. Subject matter for controlling or pacer parameter in response to signals from plural sensors of the same or different body conditions.
- (1) Note. Two temperature sensors located at different areas of the body or a temperature sensor and a blood pressure sensor.
- 19 Physical activity:**
This subclass is indented under subclass 17. Subject matter for controlling the pacer parameter as a function of the movement of a portion of the patient's body.
- SEE OR SEARCH CLASS:
600, Surgery, subclass 595 for subject matter monitoring body movement.
- 20 Respiratory movement:**
This subclass is indented under subclass 19. Subject matter wherein the moving body part is the chest wall or lungs.
- SEE OR SEARCH CLASS:
600, Surgery, subclasses 534+ for subject matter sensing body movement for diagnostic purposes.
- 21 Body or blood temperature:**
Subject matter under 17 for controlling the pacer parameter as a function of the sensed temperature of the body or blood.
- SEE OR SEARCH CLASS:
600, Surgery, subclass 549 for subject matter sensing temperature for diagnostic purposes.

- 22 Chemical substance in blood:**
This subclass is indented under subclass 17. Subject matter for controlling the pacer parameter as a function of the concentration, e.g., pH, of a chemical substance in the patient's blood.
- SEE OR SEARCH CLASS:
600, Surgery, subclass 309, 310, and 345 for subject matter sensing chemicals in the blood for diagnostic purposes.
- 23 Blood pressure:**
This subclass is indented under subclass 17. Subject matter for controlling the pacer parameter as a function of blood pressure.
- SEE OR SEARCH CLASS:
600, Surgery, subclass 465 for blood pressure sensors for diagnostic purposes.
- 24 Stroke volume:**
Subject matter under 17 for controlling the pacer parameter as a function of the change in size of the heart ventricles from the fully contracted to the fully distended state.
- SEE OR SEARCH CLASS:
600, Surgery, subclass 526 for stroke volume determining devices for diagnostic purposes.
- 25 Ventricular electrocardios:graphic intervals, (e.g., q-t interval):**
This subclass is indented under subclass 17. Subject matter wherein the pacer is controlled as a function of the electrocardios:graphic interval measured from the occurrence of a pacer pulse, or the heart's response, thereto to the time when the heart recovers from the effects of the stimulus.
- SEE OR SEARCH CLASS:
600, Surgery, particularly subclasses 515+ for subject matter detecting various waves of the electrocardios:graphic signal for diagnostic purposes.
- 26 Gradient or slope of electrocardios:graphic waves:**
This subclass is indented under subclass 17. Subject matter wherein the pacer is controlled as a function of the change of amplitude or the rate of change.
- SEE OR SEARCH CLASS:
600, Surgery, particularly subclasses 515+ for subject matter detecting various waves of the electrocardios:graphic signal for diagnostic purposes.
- 27 Testing or monitoring pacer function:**
This subclass is indented under subclass 9. Subject matter for determining whether or not a pacer is functioning in the desired manner.
- 28 Measuring pacing threshold, capture margin, or contact impedance:**
This subclass is indented under subclass 27. Subject matter for determining the minimum, pulse amplitude necessary to sustain pacing of the heart, how much reserve or margin of amplitude exists above a threshold, or a load or contact impedance at the applicator interface with the body tissue as a measure of pacing efficiency.
- 29 Testing condition of energy source:**
This subclass is indented under subclass 27. Subject matter for determining the condition or remaining useful life of available power source powering the pacer.
- 30 Remotely changing (e.g., programming, pacer), parameters, or functions:**
This subclass is indented under subclass 9. Subject matter for remotely changing, the parameters of the generated pulse or the mode of operation, to adapt the pacer to a particular patient or to changing conditions in the patient.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
27+, for subject matter changing parameters for test purposes only.
145, for similar subject matter in nonpacer stimulators.
- 31 Assurance of security, accuracy, or completion of programming procedure:**
This subclass is indented under subclass 30. Subject matter permitting programming only if signals in the proper format are received, or indicating the implementation of, or the exactness of the effect of such programming signals.

- 32 Communicating with pacer (e.g., telemetry):**
This subclass is indented under subclass 9. Subject matter with specific arrangements for communication between the pacer and a remote device such as a programmer or monitor.
- (1) Note. This subclass is intended to receive devices having more specific structure than a diagram block labeled "telemetry", "coil", or the like.
- SEE OR SEARCH CLASS:
128, Surgery, subclasses 903 through 904 for radio and telephone telemetry devices for medical purposes.
- 33 Energy source external to generator or body:**
This subclass is indented under subclass 9. Subject matter having at least one energy source outside a container for the signal generator structure or the user's body.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
61, for similar subject matter in noncardiac stimulators
- 34 Alterable energy source configuration:**
This subclass is indented under subclass 9. Subject matter for altering the manner in which the individual portions of an energy source supply energy to a pulse generator, thus preventing the failure of one portion of the source from causing failure of the pacer or to reconfigure the remaining operative portions to prolong the useful life of the pacer.
- 35 Biological substance or activity-powered energy source:**
This subclass is indented under subclass 9. Subject matter wherein energy for operating the pacer is derived from body substances, or a movement of a portion of the body.
- SEE OR SEARCH CLASS:
439, Electrical Connectors, subclass 2 for subject matter using living matter in the battery and subclasses 9+ for fuel cell-type batteries.
- 36 Feature of stimulator housing or encapsulation:**
This subclass is indented under subclass 9. Subject matter wherein significance is attributed to the material, construction, shape, etc. of either a container for the generator or a material encapsulating or filling the container.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
9, for subject matter relating to the construction of the circuit, per se; e.g., chip architecture, component mounting, etc.
- 37 Feature of generator-applicator connection:**
This subclass is indented under subclass 9. Subject matter pertaining to an electrical and mechanical connection between a signal generator and a lead for the applicator.
- SEE OR SEARCH CLASS:
439, Electrical Connectors, appropriate subclasses for similar subject matter in general utility electrical devices.
- 38 Multiple position connector:**
This subclass is indented under subclass 37. Subject matter wherein the connection is capable of more than one operative position to permit alternative electrical connection to be made between the generator and the applicator.
- 39 Stimulating reproductive organ:**
This subclass is indented under subclass 2. Subject matter for stimulating reproductive tissue to promote erectile tissue in the body or to stimulate testes for production of semen.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
138, for applicators for vaginal or uterine use.
143, for applicators for male genital organs.
- SEE OR SEARCH CLASS:
128, Surgery, subclass 788 for electrical applicators for male genital organs and subclass 794 for electrical applicators for vaginal or uterine use.

- 40 Stimulating bladder or gastro-intestinal tract:**
This subclass is indented under subclass 2. Subject matter for stimulation of the membranous sac in which urine is stored or stomach and intestines of the body to restore or maintain at least quasi-normal operation thereof.
- 41 Incontinence control:**
This subclass is indented under subclass 40. Subject matter providing stimulation to avoid the involuntary discharge of body wastes.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
138, for applicators for vaginal or uterine use.
- 42 Stimulating respiration function:**
This subclass is indented under subclass 2. Subject matter providing stimulation for maintaining a regular breathing cycle.
- 43 Correcting spinal deformities:**
This subclass is indented under subclass 2. Subject matter providing stimulation to muscles attached to a backbone support structure for eliminating or diminishing spinal curvature and other such deformities of the spinal column.
- 44 Treating hypertension:**
This subclass is indented under subclass 2. Subject matter providing stimulation to a portion of the body, to cause a reduction of blood pressure as a treatment for high blood pressure.
- 45 Treating mental or emotional disorders:**
This subclass is indented under subclass 2. Subject matter providing stimulation, primarily to the head, for causing a convulsive shock or other altering of brainwaves to ease or eliminate the symptoms of mental and emotional disorders.
- 46 Electrical treatment of pain:**
This subclass is indented under subclass 2. Subject matter providing stimulation to reduce the patient's awareness of bodily suffering or distress.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
134, for electrical applicators used in, on, or near the mouth.
- SEE OR SEARCH CLASS:
600, Surgery, subclass 26 for electrical stimulation to induce sleep or to produce a general anesthetic effect.
- 47 Dental analgesia:**
This subclass is indented under subclass 46. Subject matter wherein the stimulation is applied in, on, or near the patient's mouth to reduce pain of toothache or dental procedures.
- 48 Directly or indirectly stimulating motor muscles:**
This subclass is indented under subclass 2. Subject matter providing stimulation to those organs which produce movement or their controlling nerves to induce at least a quasi-normal movement of the associated body part.
- 49 For walking assistance:**
This subclass is indented under subclass 48. Subject matter wherein the stimulation is applied to leg muscles or nerves to assist the patient during locomotion.
- 50 Promoting tissue growth or healing:**
This subclass is indented under subclass 2. Subject matter providing electrical stimulation for accelerating tissue growth or healing of surface and subcutaneous wounds.
- SEE OR SEARCH CLASS:
600, Surgery, subclasses 9+ for subject matter providing similar treatment by magnetic field.
- 51 Hard tissue (e.g., bone):**
This subclass is indented under subclass 50. Subject matter wherein the tissue treated is a solid, rigid, compact mass.
- 52 With monitoring or testing feature:**
This subclass is indented under subclass 51. Subject matter providing for checking or controlling of the progress of tissue growth.

- 53 Promoting optical function:**
This subclass is indented under subclass 2. Subject matter providing electrical stimulation to improve the condition or the natural operation of the patient's sense of sight.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
141, for electrical applicators for the eye.
- 54 Producing visual effects by stimulation:**
This subclass is indented under subclass 2. Subject matter providing electrical stimulation which produces a resulting effect interpreted by a patient's brain as light; e.g., phosphene.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
136, for electrical applicators for the external ear canal.
- 55 Promoting auditory function:**
This subclass is indented under subclass 2. Subject matter providing means for stimulation to improve the condition or operation of a patient's sense of hearing.
- 56 Producing aural effects by stimulation:**
This subclass is indented under subclass 55. Subject matter wherein the stimulus is derived from an audio information signal device and is applied to the patient's auditory nerves, as a hearing aid or to other neural pathways, as a prosthesis.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
136, for electrical applicators for the external ear canal.
137, for electrical applicators for the inner ear.
- SEE OR SEARCH CLASS:
600, Surgery, subclass 25 for implanted, vibratory-type hearing aid devices.
- 57 By partially or wholly implanted device:**
This subclass is indented under subclass 56. Subject matter wherein at least a portion of the device is surgically placed or inserted in the body.
- 58 Stimulating for aversion and substance abuse therapy:**
This subclass is indented under subclass 2. Subject matter having means for providing stimulation to a person attempting to break habituation to actions or substances by substituting an electrical shock for the action or substance or for providing a warning or protection against the action of another.
- (1) Note. Protection against the actions of another includes repelling a shark attack on a swimmer or by using a "stun gun".
- 59 Control signal storage (e.g., programming):**
This subclass is indented under subclass 2. Subject matter providing for the storage of information in the stimulator containing at least one signal parameter or mode of operation whereby the operation of the generator can be controlled for immediate or subsequent delivery of a desired stimulation signal.
- 60 Telemetry or communications circuits:**
This subclass is indented under subclass 2. Subject matter providing for communication between the stimulator and a control or a monitoring unit.
- (1) Note. The mere presence of a diagram box labeled "coil", "telemetry," or the like is not sufficient subject matter to warrant classification in this subclass.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
33, and 52, for cardiac pacers with programming circuitry.
- SEE OR SEARCH CLASS:
128, Surgery, subclasses 903 through 904 for radio and telephone telemetry means used on the body.
- 61 Energy source outside generator housing:**
This subclass is indented under subclass 2. Subject matter where the energy source for the generator is an independent means which as a separate unit is operatively connected to the generator.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
33, for cardiac pacers with similar energy source application.
- 62 Output controlled by sensor responsive to body or interface condition:**
This subclass is indented under subclass 2. Subject matter wherein a body condition or a contact or interface condition between the applicator and body surface is monitored and used as a control input, (i.e., feedback) to adjust a parameter or operating condition.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
11, for cardiac pacers which regulate the output signal according to an interface condition.
17+, for body condition-responsive cardiac pacers.
- SEE OR SEARCH CLASS:
600, Surgery, subclasses 300+ for diagnostic devices sensing various body conditions.
- 63 Promoting patient safety or comfort:**
This subclass is indented under subclass 2. Subject matter providing for the well-being or protection of a patient by limiting amplitude levels in the signal, disconnecting the patient from the generator, shutting off the generator in the event of circuit failure or unsafe operating condition.
- 64 Constant level output:**
This subclass is indented under subclass 63. Subject matter maintaining a substantially constant output amplitude regardless of changing interface conditions.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
11, for cardiac pacers which regulate the output signal according to an interface condition.
- 65 Signal generated by induction coil circuit:**
This subclass is indented under subclass 2. Subject matter wherein the stimulus generator includes a primary coil connected to a circuit interrupter or an energy source which induces a current in a secondary coil.
- 66 Generating more than one signal:**
This subclass is indented under subclass 2. Subject matter having a generator means for separate stimuli to be alternately or simultaneously applied to the patient.
- (1) Note. Merely providing the same signal to plural sets of applicators does not qualify as "separate stimuli".
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
148, for applicators defining plural electrical pathways through the body.
- 67 Applied for interferential effect in body:**
This subclass is indented under subclass 66. Subject matter wherein separate signals are applied to the body with the signals intersecting below the surface of tissue to produce a combined effect, therein.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
115+, for electrical applicators.
148, for applicators defining plural electrical pathways through the body.
- 68 Generating complex signals:**
This subclass is indented under subclass 2. Subject matter for generating a stimulus having at least two signal components.
- (1) Note. If more than two signal components are present, regardless of the type, the patent is classified in this subclass.
- (2) Note. Such signals may be galvanic or constant direct current, oscillatory with positive and negative portions substantially congruent and pulse; e.g., discontinuous or nonoscillatory continuous waves, combined by mixing, adding, modulating, etc.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
72+, for pulse-type signals.
75, for galvanic signals.
76, for oscillatory signals.

- 69 With two oscillating signal components:**
This subclass is indented under subclass 68. Subject matter for generating a composite stimulus formed from two signal components, each of which having continuous signals having positive and negative portions of approximately the same amplitude and shape.
- 70 With two pulse signal components:**
This subclass is indented under subclass 68. Subject matter for generating a composite stimulus formed from two signal components, both of which are discontinuous or continuous, nonoscillatory-types.
- 71 With one pulse and one oscillating signal component:**
This subclass is indented under subclass 68. Subject matter for generating a composite stimulus formed from two signal components, one of the pulse-type and the other of oscillatory-type.
- 72 Pulse signal:**
This subclass is indented under subclass 2. Subject matter for generating a stimulus having a single component which is a discontinuous or continuous, nonoscillatory stimuli.
- 73 Random or pseudo-random pulse pattern:**
This subclass is indented under subclass 72. Subject matter wherein pulses are generated with at least one parameter which varies without pattern or in a false patternless manner.
- 74 Bipolar pulses:**
This subclass is indented under subclass 72. Subject matter wherein the generated pulses have both positive and negative components.
- 75 Galvanic (e.g., battery-like, direct current signals):**
This subclass is indented under subclass 2. Subject matter for generating a stimulus having a single component of the galvanic or battery like type wherein the amplitude is relatively unchanging direct current.
- 76 Oscillating signals:**
This subclass is indented under subclass 2. Subject matter for generating a single component which is a continuous signal having positive and negative portions of substantially the same amplitude and shape.
- 77 Exercising:**
This subclass is indented under subclass 1. Subject matter associated with means designed for physical exertion to develop the muscles of the body which is operated by the user.
- SEE OR SEARCH CLASS:
482, Exercise Devices, particularly subclasses 1+ for an exercise device which applies electricity to a user while exercising for a nontherapeutic purpose.
- 78 Push or pull:**
This subclass is indented under subclass 77. Subject matter in which the exercise is obtained by a to and fro motion against a resisting force and operated by an attached part of the body.
- SEE OR SEARCH CLASS:
482, Exercise Devices, particularly subclasses 92+ for a push or pull exercise device.
- 79 Brush or comb:**
This subclass is indented under subclass 1. Subject matter combined with an implement consisting of bristles, hair, or the like, attached to a handle or an implement consisting of a toothed strip of material for arranging hair or holding it in place.
- SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, subclasses 159+ for brushes, particularly subclass 160 for heated brushes.
132, Toilet, subclass 219 for combs, particularly subclasses 117 and 118 for heated combs.
601, Surgery: Kinesitherapy, subclasses 15+ for body massagers combined with light, thermal, and electrical applicators.
- 80 Light and fluid treatment:**
This subclass is indented under subclass 1. Subject matter which is used to apply light rays and liquids to the body concurrently.

- SEE OR SEARCH CLASS:
4, Baths, Closets, Sinks, and Spittoons, subclasses 487+ for bathing apparatus having no means other than the bathing medium to modify the temperature of the body.
- 81 Baths or cabinets:**
This subclass is indented under subclass 1. Subject matter designed to surround or enclose the body or a body member for the purpose of applying thermal or fluid treatment thereto.
- SEE OR SEARCH CLASS:
4, Baths, Closets, Sinks, and Spittoons, subclasses 535+ for subject matter used in general bathing (i.e. showers, tubs etc.) and for applying hot air baths having no means to apply heat to the body except through the heat conveyed to the body of air.
312, Supports: Cabinet Structure, for general cabinet structure.
- 82 Shower or spray:**
This subclass is indented under subclass 81. Subject matter wherein a jet of fine liquid is discharged over the body or a body member.
- SEE OR SEARCH CLASS:
4, Baths, Closets, Sinks, and Spittoons, subclasses 59+ for shower baths.
- 83 Vapor:**
This subclass is indented under subclass 81. Subject matter wherein a gas at a temperature below its critical temperature is applied to the bath or cabinet enclosure.
- SEE OR SEARCH CLASS:
4, Baths, Closets, Sinks, and Spittoons, subclasses 524+ for vapor and hot-air baths.
- 84 For body member:**
This subclass is indented under subclass 83. Subject matter wherein the enclosure is adapted to accommodate only a part of the body.
- SEE OR SEARCH CLASS:
4, Baths, Closets, Sinks, and Spittoons, subclass 537 for vapor baths for the head or face.
- 85 Liquid receiving tub:**
This subclass is indented under subclass 81. Subject matter comprising tanks or receptacles for bathing.
- SEE OR SEARCH CLASS:
4, Baths, Closets, Sinks, and Spittoons, subclasses 488+ and 538+ for liquid holding body receiving receptacles.
- 86 For body member:**
This subclass is indented under subclass 85. Subject matter wherein the receptacle is adapted to accommodate only a part of the body.
- SEE OR SEARCH CLASS:
4, Baths, Closets, Sinks, and Spittoons, subclass 573.1 and 621+ for liquid receptacles for the feet.
- 87 With fluid circulation:**
This subclass is indented under subclass 81. Subject matter wherein a treatment medium comprises a thermally controlled fluid which is circulated to the bath or cabinet.
- SEE OR SEARCH CLASS:
4, Baths, Closets, Sinks, and Spittoons, subclasses 541+ for baths with liquid circulating means.
128, Surgery, subclass 66 for baths which comprise a circulated liquid medium
- 88 Light application:**
This subclass is indented under subclass 1. Subject matter having means for the application or analogous rays of light to the body.
- SEE OR SEARCH CLASS:
602, Surgery: Spint, Brace, or Bandage, subclasses 2+ for surgical instruments confined with light applicators.
- 89 Laser application:**
This subclass is indented under subclass 88. Subject matter wherein a maser which amplifies radiation of frequencies of light within or

near the range of visible light is used to treat the body.

SEE OR SEARCH CLASS:

606, Surgery, subclasses 2+, for instruments which direct focused paralleled light rays at the body.

90 Lamp and casing:

This subclass is indented under subclass 88. Subject matter wherein the light applicator comprises a covering for the case or an associated support structure for the light.

SEE OR SEARCH CLASS:

362, Illumination, for lamps in combination with casing and/or support structure.

91 Surrounding body or body member:

This subclass is indented under subclass 90. Subject matter wherein the casing or its support is designed to enclose the body or a body member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

80, for body enclosures which comprise light ray and fluid treatments.
81, for body enclosures with lamps which heat the body.

SEE OR SEARCH CLASS:

250, Radiant Energy, subclass 455.1 for enclosures combined with sources of radiant energy.

92 Internal application:

This subclass is indented under subclass 90. Subject matter which is used to apply light rays directly to the internal body tissue, organs, or fluids.

(1) Note. This subclass includes subject matter which applies light rays to body fluids which are pumped outside of the body.

SEE OR SEARCH CLASS:

600, Surgery, subclasses 185+, 191, 200, 221+, and 246 for illuminated specular designed to enter natural body orifices

93 Light pipe applicator:

This subclass is indented under subclass 90. Subject matter wherein the casing or support structure comprises a rod or cable of light transparent material for directing the light ray along a restricted, usually curved path.

SEE OR SEARCH CLASS:

600, Surgery, subclasses 101+, particularly, subclasses 160+, 179+, 183+, 191, 200, 213, 224, 246+, and 248+ for light conductors which are inserted into the body.

94 Ultraviolet:

This subclass is indented under subclass 90. Subject matter which utilizes light rays beyond the violet segment of the spectrum to treat the body.

SEE OR SEARCH THIS CLASS, SUBCLASS:

90, for ultraviolet lights combined with body surrounding structures.

SEE OR SEARCH CLASS:

250, Radiant Energy, subclass 504 for ultraviolet light generation and sources.

95 Solar (Natural) light applicator:

This subclass is indented under subclass 88. Subject matter having means which are designed to expose the body to sun rays in a particular manner through the use of some structural feature.

SEE OR SEARCH THIS CLASS, SUBCLASS:

80, for pools or tubs filled with fluid for the purpose of cooling the body while sunbathing.

SEE OR SEARCH CLASS:

D24, Medical and Laboratory Equipment, subclass 38 for the design of similar devices.

96 Thermal applicators:

This subclass is indented under subclass 1. Subject matter which is worn on or applied directly upon the body in order to modify its temperature.

SEE OR SEARCH CLASS:

- 62, Refrigeration, appropriate subclasses, for refrigeration means, particularly subclass 530 for an envelope type container, containing material to be refrozen for reuse.
- 126, Stoves and Furnaces, subclasses 204+ for nonelectrical body warmers.
- 150, Purses, Wallets, and Protective Covers, subclass 2.1 for heat exchange bags.
- 165, Heat Exchange, subclass 46 for a flexible envelope or cover type of heat exchanger not limited by structure to therapeutic use.
- 219, Electric Heating, subclass 211 for body warmers combined with electric heating means particularly subclasses 354 and 553 for infra red lamps and subclass 528 for flexible heaters.
- 220, Receptacles, subclass 577 for a rigid heat transfer container intended to be used in the manner of a hot water bottle.
- 601, Surgery: Kinesitherapy, subclass 3 for ultrasonic thermal applicators.
- 604, Surgery, subclass 291 for thermal medicators.

98 Electric current:

This subclass is indented under subclass 96. Subject matter wherein heating is accomplished by passing electric current through tissue.

- (1) Note. In general, the electric current is passed between two electrodes mounted in contact with the tissue to be heated, as distinguished from electromagnetic waves radiated into the tissue. The electrodes can be either conductively coupled to the tissue or capacitively coupled to the tissue (e.g., electrode insulated from tissue).

SEE OR SEARCH CLASS:

- 219, Electric Heating, appropriate subclasses for electric heating in general.

99 Localized application:

This subclass is indented under subclass 98. Subject matter for directing the electric current to a defined limited area of the tissue to be heated.

100 Electromagnetic radiation (e.g., infrared):

This subclass is indented under subclass 96. Subject matter wherein therapeutic heating is accomplished by the absorption of electromagnetic waves radiated into the area to be heated.

- (1) Note. The electromagnetic waves may be any frequency capable of heating the tissue when coupled thereto with sufficient power, and includes without being so limited wavelengths in the infrared, radio, and microwave wavelengths.
- (2) Note. The mere specifying of, for example, of high or radio-frequencies, etc., is not sufficient for classification herein absent the feature of radiated electromagnetic waves. For example, where a radio frequency generator is coupled to a pair of electrodes attached to the body to direct a current between them, classification is proper in subclass 98, above.

101 Microwave or RF (high frequency):

This subclass is indented under subclass 100. Subject matter wherein the electromagnetic radiation is of extremely high frequency.

102 With temperature sensing:

This subclass is indented under subclass 101. Subject matter including subject matter for detecting the temperature of the heated object or applicator.

- (1) Note. This subclass will also take patents which in addition to sensory may further include control circuitry responsive to the sensed temperature for controlling the application of microwave radiation.

103 Electromagnetic induction:

This subclass is indented under subclass 96. Subject matter wherein heating is accomplished by means having electric or magnetic properties which produces magnetism, an elec-

- trical charge, or electromotive force in a body without contact therewith.
- 104 With fluid supply:**
This subclass is indented under subclass 96. Subject matter wherein a heating or cooling liquid is supplied to a thermal applicator from an outside source.
- SEE OR SEARCH CLASS:
165, Heat Exchange, subclass 46 for a subject matter regarding heat exchangers.
- 105 Internally applied:**
This subclass is indented under subclass 104. Subject matter comprising means to modify the temperature of interior body tissues, organs or fluids by direct application.
- 106 Blood:**
This subclass is indented under subclass 105. Subject matter wherein means are applied to the body to directly modify the temperature of blood.
- (1) Note. This subject matter includes devices wherein the blood is heated or cooled when it is circulated externally of the body.
- 107 Dry gas:**
This subclass is indented under subclass 104. Subject matter wherein the heating or cooling fluid is nonmoistened air.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
83, for subject matter which applies a vapor to the body.
87, for cabinets which are thermally controlled by an air circulation means.
- 108 For specific external body area:**
This subclass is indented under subclass 96. Subject matter which is designed such that it may be worn on or applied to a particular area of the body.
- SEE OR SEARCH CLASS:
2, Apparel, for wearing apparel, per se.
126, Stoves and Furnaces, subclasses 204+ for wearing apparel in combination with nonelectrical heating means.
- 219, Electric Heating, subclass 211 for wearing apparel containing an electric heating element for heating the body.
- 109 Head, face, or neck:**
This subclass is indented under subclass 108. Subject matter which is shaped so as to be applied to the head, face, or neck portions of the body.
- SEE OR SEARCH CLASS:
2, Apparel, subclass 171.2 for head coverings combined with means to treat (a) the head, (b) air coming in contact with the head, or (c) body fluids extruded from the head.
- 110 Top of head:**
This subclass is indented under subclass 109. Subject matter which is worn on the upper portion of the head in the manner of a hat.
- 111 Hand or foot:**
This subclass is indented under subclass 108. Subject matter which is shaped so as to be applied to the terminal, prehensile part of an upper or lower limb in an animal.
- SEE OR SEARCH CLASS:
36, Boots, Shoes, and Leggings, subclass 2.6 for heated shoes and subclass 3 for ventilated shoes.
- 112 With support or fastening means:**
This subclass is indented under subclass 96. Subject matter having means for sustaining or attaching a thermal pack during its application upon the body.
- SEE OR SEARCH CLASS:
62, Refrigeration, subclass 530 for envelopetype thermal packs which are applied to the body.
602, Surgery: Splint, Brace, or Bandage, appropriate subclasses, for bandages with thermal applicators.
- 113 Internal application:**
This subclass is indented under subclass 96. Subject matter having means which modify the temperature of interior body tissues, organs, or fluids by direct application.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
105, for internal thermal applicators with a fluid supply means.
- 114 Thermal material receptacle:**
This subclass is indented under subclass 96. Subject matter designed to hold hot or cold substances.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
112, for thermal material receptacles combined with body support or fastening means.
- SEE OR SEARCH CLASS:
44, Fuel and Related Compositions, subclasses 3+ for chemically fired heaters.
62, Refrigeration, subclass 530 for envelopes which retain a cold material.
383, Flexible Bags, subclass 901 for hot water or ice bags.
- 115 Electrical energy applicator:**
This subclass is indented under subclass 1. Subject matter for applying electrical energy to the external surface or inside portions of the body to effect a cure or alleviation of symptoms of a disease or defect of the body tissue.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
2+, for electrical generating systems for use with applicators producing electrical therapy.
- SEE OR SEARCH CLASS:
600, Surgery, subclasses 10+ for magnetic field therapy devices including an electrical applicator, subclasses 372+ for body signal sensing devices resembling electrical applicators, and subclass 554 for electrical applicators for diagnostic purposes.
602, Surgery: Spint, Brace, or Bandage, subclass 2 for an electrical applicator contained in a bandage.
604, Surgery, subclasses 20+ for medication dispensers with electrical application.
- 606, Surgery, subclasses 32+ for electro-surgical devices and applicators and subclass 129 for electrode guide devices.
- 116 Placed in body:**
This subclass is indented under subclass 115. Subject matter wherein the electrical energy is applied to tissue inside the body by an applicator inserted through a natural or surgically created opening in the body.
- SEE OR SEARCH CLASS:
600, Surgery, subclasses 373+ for body signal receiving devices used inside the body.
- 117 Spinal cord:**
This subclass is indented under subclass 116. Subject matter wherein the electrical energy is applied directly to the spinal cord by an electrode inserted between vertebrae or through a surgically created opening in a vertebra.
- 118 Applicator placed around the stimulated nerve:**
This subclass is indented under subclass 116. Subject matter wherein the applicator has an elongated strip wrapped around a nerve or a slot or clamp formation substantially surrounding a nerve to hold the electrode in position.
- 119 Heart:**
This subclass is indented under subclass 116. Subject matter wherein the applicator is placed directly on or in the heart tissue or within at least one chamber of the heart.
- SEE OR SEARCH CLASS:
600, Surgery, subclasses 373+ for heart signal sensing devices inserted in the body.
- 120 With drug or medicament-dispensing:**
This subclass is indented under subclass 119. Subject matter wherein the applicator includes means for dispensing a drug or medicament either by self-regulating or manual means.
- 121 With nonpolarizing, impedance matching or antithrombogenic electrode material:**
This subclass is indented under subclass 119. Subject matter wherein the electrode or other element includes material which does not cause

- a buildup of electrical charge, which promotes a good energy transfer or prevents blood clotting in order that the applicator is not disabled by the attack of body substances.
- 122 Catheter or endocardial (inside heart) type:**
This subclass is indented under subclass 119. Subject matter wherein the applicator is an elongated member with electrodes at the end or along the length thereof for insertion through a surgical incision in a blood vessel into the heart chambers.
- 123 Stimulating plural chambers (e.g., atrium and ventricle):**
This subclass is indented under subclass 122. Subject matter wherein the applicator has electrodes in or near at least two heart chambers to achieve a stimulation pattern nearer natural operation.
- 124 Esophageal-type:**
This subclass is indented under subclass 122. Subject matter wherein the applicator is inserted through the mouth and extends the electrodes near or at the level of the heart.
- 125 With nonlinear locating portion:**
This subclass is indented under subclass 122. Subject matter wherein a portion of the catheter is distorted from the longitudinal axis of the catheter to provide a positioning element with respect to the tissue of the heart.
- (1) Note. Conical or other flow-directing devices are not considered to be “locators” for purposes of this subclass.
- 126 With anchor means:**
This subclass is indented under subclass 122. Subject matter wherein structure is provided at or near the electrodes for physically attaching the catheter to the heart to maintain proper electrode contact with the heart tissue during heart motion.
- 127 Axially-mounted helical type:**
This subclass is indented under subclass 126. Subject matter wherein the anchor is in the shape of a helix or spiral mounted on the end of the catheter to be rotated into heart tissue.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
131, for other electrical applicators for use upon the heart and having spiral anchors.
- 128 Retractable tines or hooks:**
This subclass is indented under subclass 126. Subject matter wherein the anchor means comprises tines or hooks emerging from the catheter to engage heart tissue and retain the catheter in position in the heart but which are capable of being drawn back to a position where the catheter may be moved or removed.
- 129 Patch or epicardial (on heart surface) type:**
This subclass is indented under subclass 119. Subject matter wherein a patch of nonconductive material is provided with a conductive portion which is in electrical contact with the external surface of or is inserted into the heart tissue.
- 130 With anchor other than a suture:**
This subclass is indented under subclass 129. Subject matter wherein structure such as a hook, tine, etc. is employed in addition to or in lieu of a suture for retaining the electrode in operative position on the heart surface.
- 131 Helical:**
This subclass is indented under subclass 130. Subject matter wherein the anchor means is in the shape of a spiral for insertion into the heart tissue.
- (1) Note. Unless a spiral electrode is also used as an anchoring device, the subject matter would not be appropriate here.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
127, for catheter-type electrodes with spiral anchor means.
- 132 Suturetype:**
This subclass is indented under subclass 119. Subject matter wherein the applicator has at least a portion thereof with a surgical suture needle attached to permit the electrode to be inserted in the heart tissue.

- SEE OR SEARCH CLASS:
606, Surgery, subclasses 222+ for suture needles and 228+ for suture material and construction.
- 133 Gastro-intestinal tract:**
This subclass is indented under subclass 116. Subject matter wherein the applicator is inserted into the stomach or intestines for localized treatment.
- 134 Mouth:**
This subclass is indented under subclass 116. Subject matter wherein the applicator is inserted into the mouth for treatment of the interior structures of the mouth.
- 135 Nose:**
This subclass is indented under subclass 116. Subject matter wherein the applicator is inserted in and treats the inner surfaces of the organ of smell.
- 136 External auditory canal:**
This subclass is indented under subclass 116. Subject matter wherein the applicator is inserted in the canal of the outer ear leading from the auricle to the ear drum.
- 137 Inner ear (e.g., cochlea):**
This subclass is indented under subclass 116. Subject matter wherein the electrodes are implanted in the structures of the inner ear such as the cochlea for stimulating nerve fibers of the auditory system.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
56, for electrical stimulating devices for this purpose.
- 138 Rectum, vagina, or uterus:**
This subclass is indented under subclass 116. Subject matter wherein the applicator is inserted into an anal opening, a vaginal opening or a uterus to stimulate the surrounding tissue.
- 139 Head-supported:**
This subclass is indented under subclass 115. Subject matter wherein the applicator is provided with means to support the electrode on a desired portion of the head.
- 140 Mounted on, or consisting of, a mask covering nose and chin:**
This subclass is indented under subclass 139. Subject matter wherein the support means is a covering for the user's face, particularly for location over the nose and chin of the subject.
- 141 Overlying eye:**
This subclass is indented under subclass 139. Subject matter wherein the electrode is positioned over at least one organ of sight.
- 142 Applying electrical energy to the heart through intact skin (e.g., defibrillator paddle type):**
This subclass is indented under subclass 115. Subject matter wherein the applicator is intended to apply high energy electricity to the body of a subject for the purpose of restoring a regular heartbeat.
- 143 Male genital organ:**
This subclass is indented under subclass 115. Subject matter wherein the applicator is positioned on the male genitals.
- 144 Foot:**
This subclass is indented under subclass 115. Subject matter wherein the applicator is structured as a plate, bucket, tray, etc., for receiving at least a portion of a subject's terminal portion of a lower extremity.
- 145 Hand held:**
This subclass is indented under subclass 115. Subject matter wherein the applicator is shaped as a handle or rod to fit inside the subject's closed hand or placed on or entirely about the hand.
- 146 Writing instrument:**
This subclass is indented under subclass 145. Subject matter wherein the applicator is in the shape of or includes a pen or pencil.
- 147 Rotated by contact with body:**
This subclass is indented under subclass 115. Subject matter wherein the applicator surface is swivelably or rotatably mounted so as to produce a rolling contact with the body tissue when in use.

148 Electrical energy applied through parallel paths:

This subclass is indented under subclass 115. Subject matter wherein an electrode is made up of plural contacts connected in common either directly or through a switch, for example, to stimulate more than a single area of tissue.

149 Means for holding applicator against the body tissue:

This subclass is indented under subclass 115. Subject matter wherein the applicator includes means to maintain contact of the applicator with body tissue.

- (1) Note. Holding means includes adhesive, belts, bands and clamps, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

112, for support devices for other applicators.

SEE OR SEARCH CLASS:

343, Communications: Radio Wave Antennas, subclass 718 for body attached or connected antennas or structure which enables the body to operate as an antenna.

150 Hand held:

This subclass is indented under subclass 149. Subject matter wherein the device for supporting the electrode is handle-shaped to fit into the prehensile portion of an upper extremity of the user.

151 Battery-holding grip:

This subclass is indented under subclass 150. Subject matter wherein the handle includes a battery source for the device and may form one of the applicator contacts to the body tissue.

152 Flexible sheet or resilient pad:

This subclass is indented under subclass 115. Subject matter wherein the applicator is of a flat shaped single or multi-layer sheet material or is of yieldable material of similar shape.

153 Means for wetting applicator-body interface:

This subclass is indented under subclass 115. Subject matter wherein a means, is provided to reduce the electrical resistance of the interface between the body tissue and the electrical contact of the applicator by the application of a liquid thereto.

SEE OR SEARCH CLASS:

600, Surgery, subclasses 372+ for other applicators having awetted surface.

154 High frequency radiation type:

This subclass is indented under subclass 115. Subject matter wherein the applicator is intended to be used in the application of inherently high frequency to the body.

SEE OR SEARCH CLASS:

219, Electric Heating, subclasses 600+ for subject matter related to heating by means of electromagnetic fields.

155 Substantially flat radiating coil:

This subclass is indented under subclass 154. Subject matter wherein the applicator includes or consists of a coil supported in substantially planer configuration on the user's body.

SEE OR SEARCH CLASS:

600, Surgery, subclasses 13+ for similar applicators of electromagnetic fields for magneto-therapy use.

156 Antenna or transmission line:

This subclass is indented under subclass 154. Subject matter wherein the applicator is in the shape of an aerial, or a transmission line modified to provide an outlet for the electrical energy.

SEE OR SEARCH CLASS:

343, Communications: Radio Wave Antennas, subclass 718 for body attached or connected antennas or structure which enables the body to operate as an antenna.

CROSS-REFERENCE ART COLLECTIONS

- 900 Substance abuse therapy:**
A cross-reference art collection directed to patents for the treatment of dependency of addictive substances.
- 901 Cancer detection:**
A cross-reference art collection directed to means used to discover the presence of a malignant invasive tumor.
- 902 Fetal monitoring other than heart rate:**
A collection of cross-reference art collection directed to the monitoring of fetal activities while in the womb exclusive of the heartbeat rate.

END